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Agricultural trends and paths toward the future—A conference summary

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On December 1, 2009, the Chicago Fed held a conference that examined issues shaping the future of Midwest agriculture, with a focus on public policy implications. This conference gathered experts from academia, industry, and policy institutions to discuss trends and possibilities for agriculture in the region and across the nation.

Materials presented at the conference, Perspectives on the Future of Agriculture in the Midwest, are available at www.chicagofed.org/webpages/events/2009/agriculture_conference.cfm.

The goals of this conference were to explore factors that will impact the future direction of Midwest agriculture, particularly its composition and structure; examine the implications of the changing agricultural landscape for rural communities, as well as industry; and discuss the role that policies will play in guiding agriculture. A common theme was the opportunities for growth in Midwest agriculture while facing traditional and new challenges requiring innovative solutions and some painful transitions.

Daniel G. Sullivan, Federal Reserve Bank of Chicago, kicked off the conference, emphasizing agriculture's key role in the future of the Seventh Federal Reserve District.[1] Sullivan noted that agriculture has faced volatile conditions in recent years: Corn and soybean prices reached nominal record levels and then dropped dramatically; positive livestock and dairy margins evaporated quickly; and consumer food prices rose rapidly before falling below the level of a year ago by the fall of 2009. Accounting for these factors, the U.S. Department of Agriculture (USDA) had forecasted net farm income to decline 35% in 2009 from 2008. Moreover, in 2009, District farmland values were down from a year ago, after a run of years with large increases. A deterioration in District credit conditions reflected the downturn in agricultural prospects, compounded by the recession, according to Chicago Fed surveys of agricultural bankers. Against this backdrop, participants analyzed the future of midwestern agriculture and the regional economy.

Trends in Midwest agriculture

Mary Ahearn, USDA, highlighted important trends affecting the over 2 million farms in the U.S. Increasingly, the typical farm family has had a relatively stronger financial position than other families in the U.S. However, most farm households have depended less on income from the farm than from other sources. Partly this has stemmed from the increasing number of smaller farms over the past several decades. The largest farms (gross value of production over $250,000) made up only 10% of total farms in 2009, yet these farms generated almost 90% of the total value of production. Ownership of farmland has shifted away from those who operate farms; also, farm operators have leased a higher proportion of their farmland. The standard measures of farm sector and household financial performance improved over the past few decades, but they had been forecasted to decline from 2008 to 2009. In particular, farm household income from farming and from other sources had been expected to decrease in 2009. Moreover, fewer farm families would have had health insurance coverage under USDA projections. Also, farmland values and the net worth of farms had been headed lower. Even so, the farm debt-to-asset ratio on average would have remained relatively low compared with historical standards. Ahearn calculated that the Seventh District had both the most farms of any Federal Reserve District and the highest value of production (about 19%) in 2008. At the same time, the Seventh District had the highest returns on assets and the largest debt-to-asset ratio.

> Midwestern agriculture has a future filled with promise, although global, national, and regional challenges lie ahead.

Christopher A. Wolf, Michigan State University, analyzed the prospects for the dairy industry in the Upper Midwest. Wolf examined recent swings in dairy product prices, highlighting the declining real farm price for milk since the 1970s. Milk prices collapsed, since the global economic crisis decreased demand in foreign markets and reduced U.S. dairy exports. In the past few years, milk prices have fallen so low that operations have not covered feed costs, which had increased substantially. This situation led to contractionary pressures on dairy farms, some of which folded. Wolf estimated that further cuts in the dairy herd were needed to stem industry losses, especially among farms purchasing feed. At the same time, dairy farms will need to grow larger in order to cover labor costs and achieve efficiencies, since about 85% of them had fewer than 200 cows in 2008. Government payments under the USDA's Milk Income Loss Contract Program helped buffer smaller producers relatively more than larger ones. Yet, herd buyouts under the dairy industry's Cooperatives Working Together program have led to the exit of smaller operations. The long-term trend for dairy production to shift to the West has slowed during the recent downturn, while herd sizes have increased in the Midwest. Dairy farms in the Upper Midwest have many comparative advantages over those in the West: favorable climate, ample water, high-quality forages at lower costs, extensive dairy infrastructure, proximity to major markets, and high milk prices. However, boosting the output of milk per cow and modernizing facilities will be critical for the dairy industry in the Upper Midwest, especially for the production of higher-value products, such as specialty cheeses.

John D. Lawrence, Iowa State University, said that lower consumer demand for meat combined with higher feed costs will result in a smaller livestock industry. Both the cattle and hog sectors have suffered through tough years in 2008 and 2009. Because U.S. consumers have been spending less on food and exports have been hurt by the global recession, meat production has declined in recent years. The liquidation of cattle herds has decreased beef production, which will help increase prices only enough to cover costs in the near term, Lawrence predicted. Cattle herds should be rebuilt closer to ethanol plants so that they can more easily access distillers grains (a cheaper feed source), Lawrence argued. Hog production has been slower to decline, in part because of expectations that exports will rebound. Equity built during previous years has helped hog operations weather the losses, but lenders have not been quick to "pull the plug" on hog operations and possibly create a downward spiral in valuations, said Lawrence. Break-even hog prices were forecasted by Lawrence to occur in mid-2010. Lawrence indicated that the midwestern livestock industry has comparative advantages because of the increased value of manure as a fertilizer and lower relative shipping costs for feed when energy prices rise.

An analysis of the feed grain sector was provided by Paul J. Bertels, National Corn Growers Association (NCGA). Bertels stressed that both corn growers and ethanol producers need a healthy livestock industry to prosper. Because of increases to support the ethanol industry's expansion in recent years, U.S. corn acreage has consistently been larger than that of soybeans or wheat. Moreover, the rise in corn production has been boosted by higher yields. Feed usage trended down over the past five years, as distillers grains from ethanol plants increasingly displaced corn for feed. The supply of distillers grains will continue to grow under congressional mandates for higher usage of biofuels, though corn-based ethanol would reach a ceiling by 2015. After the sharp run-up in corn prices during 2007–08, there could be a new range for corn prices between $3.50 and $4.00 per bushel, possibly mirroring oil price changes. According to Bertels, the NCGA expects U.S. corn production to expand to 17 billion bushels by the 2020–21 crop year, with usage for feed and residual at 32%, for export at 15%, and for ethanol at 25% (adjusted for a distillers grain credit). So, the diversion of feed grain for the expansion of biofuel output should not endanger the health of the livestock sector.

Challenges for agriculture going forward

The keynote speaker, Leland A. Strom, chairman and CEO, Farm Credit Administration, pointed out the negative impact of the recession on 2009's net cash farm income, particularly for dairy and hog operations. Agriculture should benefit from fiscal stimulus as spending and tax credits promote infrastructure improvements and alternative fuel development while generating job growth for new off-farm income. In 2009, agricultural lending by the Farm Credit System (FCS) and commercial banks continued to grow, though at a slower pace, as credit standards tightened and demand for loans by farmers eased. Strom noted the challenges for agriculture going forward: outside agendas forcing change on traditional agriculture; a shrinking livestock sector; the growth of alternative energy produced from agricultural inputs; the premium on risk management due to increased price volatility for outputs and inputs; reduced government support due to the enormity of the U.S. deficit; the transfer of farms to the next generation; and the promotion of open international trade. To illustrate the first challenge, Strom mentioned the debate over climate control legislation, which could lead to a higher cost structure for agricultural inputs without providing adequate sources of new income (particularly for the livestock sector). Strom elaborated on another challenge: The FCS has a special role in the transfer of farm operations to the next generation through loan programs designed to aid young, beginning, and small farmers and ranchers. Declines in agricultural land values in 2009 may aid this transition. Also, Strom said that predictions of strong farm income in the future should alleviate worry that there will be a major drop in farmland values after a doubling in the past five years. Land values have remained a primary focus because 45% of the FCS loan portfolio was collateralized with first liens on farmland and over 80% of agriculture's net worth was based on land values. Even in the current economic environment, the FCS continued to be safe and sound, Strom said.

How the public weighs the risks to agriculture compared with those of other enterprises will be crucial in the debate over the future of farm policy.

The environment and agriculture

Richard Breckenridge, Illinois Environmental Protection Agency, covered environmental trends in agriculture. He portrayed population issues and environmental regulations as key drivers of agricultural trends. Breckenridge identified the runoff of nitrates and phosphorus, pesticide application, particulate matter pollution, carbon dioxide emissions, and greenhouse gases as critical issues that affect agriculture. More specifically, livestock production faces several environmental challenges that will be costly to address—e.g., issues related to methane collection and slurry storage. However, some environmental challenges will bring new opportunities for earnings. For example, carbon trading markets have already provided extra income to agriculture, and additional revenues from nutrient and ecological trading are possible in the future. Ethanol plants will continue to pursue water and energy efficiencies; also, there has been promising research into biofuels from algae. Breckenridge foresaw a renaissance in midwestern agriculture as the industry meets the challenges of environmental demands through new technologies, business models, and streams of revenue. For example, crop research has already benefited the environment by lowering the impact of pesticides, strengthening root systems, and making nutrient technologies more precise.

Jim Slama, FamilyFarmed.org, discussed the growth of local and sustainable food production and the generation of new opportunities in farming, food processing, and retailing. Many consumers want foods without pesticides, antibiotics, synthetic hormones, and genetic modifications; they also want foods with more nutrients, as well as foods derived from animals that were treated humanely. As evidence, organic food sales have grown dramatically over the past two decades. There has also been rapid growth in the number of farmers' markets. Urban agriculture has grown: City dwellers have begun using vacant lots to grow local foods. Companies such as Whole Foods, celebrity chefs, and Community Supported Agriculture have all played a part in this local and organic foods movement. Price premiums for local and organic foods have created opportunities in the Midwest, opening the way for investment in local food production. Entrepreneurs face many challenges to expand their businesses to meet the demand for local and organic foods: inadequate distribution infrastructure and marketing support; lack of access to financial capital, land, and training and development programs; and the need for more research. The Local Food, Farm, and Jobs Act of 2009 gave impetus to the local foods movement in Illinois through mandates for existing state agencies, more data gathering, a label for products produced in Illinois, and the creation of a council to support local production of food and farm products.

The "green economy" and Midwest agriculture were examined by William Schleizer, the Delta Institute. The green economy involves renewable energy, recycling and reuse, water conservation, and local agriculture. The Delta Institute has supported programs that improve the environment, the economy, and communities by promoting green thinking and green choices. For instance, by looking beyond just the output of farming, the value of agricultural production can include carbon sequestration, as well as biodiversity and water quality maintenance. A carbon aggregation program has provided over $2 million to those enrolled, and it has established a pattern for future programs, said Schleizer. Furthermore, growing a greater variety of crops with new more energy-efficient production methods will help meet future market demand while achieving environmental public policy objectives. Multiple revenue sources can boost the profitability of all types of farms. Local food systems will enhance diversity and should play a part.

Public policy and Midwest agriculture

Tamara A. White, Illinois Farm Bureau, addressed the role of public policy in shaping the future of Midwest agriculture. White shared what she thought

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the policy objectives for U.S. agriculture's future should be: maintaining a positive agricultural trade balance, boosting energy production, assisting global food security, and mitigating climate change. She noted that in recent years U.S. agriculture has experienced costlier regulations, fought to maintain its competitiveness globally, and become more concentrated among fewer operators as the size of operations has increased. To find enough opportunities for the output from extremely productive farmland, the Midwest will need to take advantage of its strong financial, energy, food, and transportation industries, plus its excellent resources for research and development.

Robert L. Thompson, University of Illinois at Urbana–Champaign, talked about how public policy might shape Midwest agriculture's future. Given U.S. agriculture's vast capacity for production, Thompson emphasized that output will continue to exceed domestic demand and will flow into growing foreign markets. Population and economic growth in low-income countries will present the greatest opportunities for exports, leading to demand rising the most for animal products and edible oils. With global constraints on land and water, the Midwest will have a comparative advantage in meeting the world's demand for these products. However, the current stalemate in negotiations among members of the World Trade Organization (regarding subsidies on agricultural production, among other issues) will need resolution before the midwestern economy can fully realize this potential growth in food exports. Moreover, the competitiveness of the food and agriculture sector will be affected increasingly by a wide array of national and state policies, not just the traditional subsidization of commodities. Future farm policy must answer questions about the mix of funding for investments in rural development versus payments to individual operations. Also, the split between payments for farmers to produce specific commodities and payments for farmers to produce their own choices of crops will have important implications for output and profitability. Thompson said that the greater riskiness inherent in farming (from unforeseen weather conditions, resource constraints, and volatile commodity prices, among other factors) builds a strong case for a safety net of farm revenue funded by federal taxpayers. Hence, how the public weighs the risks to agriculture compared with those of other enterprises will be crucial in the debate over the future of farm policy.

Ann Tutwiler, USDA, discussed the global nature of food insecurity, which has been intensified by commodity price spikes in recent years. She argued that U.S. agricultural policy should take a more comprehensive approach that involves coordination with other national governments and multilateral institutions. Moreover, the nations receiving funds from the U.S. should expect to be held accountable by the U.S. for meeting mutually agreed-upon development goals. Also, agricultural policy should emphasize investments in infrastructure and agricultural research, Tutwiler contended, so that productivity improves. Global investments in agriculture will be vital to the future of the rural poor, who have the most to gain from such efforts. Yet the Midwest also stands to benefit from the growing number of markets for its agricultural, manufacturing, and service exports.

Conclusion

Overall, the conference outlined a bright future for midwestern agriculture, even though we face many global, national, and regional challenges. Because of the Seventh District's comparative advantages, including plentiful water and productive land, agriculture will remain an important sector here, providing many opportunities for growth as policy evolves.

[1] The Seventh Federal Reserve District comprises all of Iowa and most of Illinois, Indiana, Michigan, and Wisconsin.